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ABSTRACT

A study analyzed argumentative essays written to both friendly and hostile audiences by 12 high school seniors, 24 college freshmen, and 16 college juniors and seniors. The high school students were randomly selected from college-bound English classes that had stressed reading and writing about literature but had also included some work in expository writing. Writing samples were gathered near the end of the academic year, and thus the high school students' writing abilities were largely those they would carry into college. College students were selected from various disciplines and class levels. All subjects wrote argumentative papers on two separate occasions, one paper for a "friendly" audience and one for a "hostile" audience. After holistic rating, the papers were analyzed for degree and kind of audience activity and for the writer's level of intellectual development. Hostile-audience papers were also coded for their rhetorical bases of justification of argument. Results showed that level of intellectual development was a more significant predictor of holistic scores than demographic variables. Significant relationships between writers' audience activity, holistic scores, and levels of intellectual development were found. Four hostile-audience variables--audience strategy and response and the dogmatic and logical bases of argument--predicted significantly for scores and yielded similar results to those obtained when level of intellectual development was considered in the regression. The hostile audience papers evoked the most audience activity, both positive and negative, especially dialectical activity. (Nine pages of references as well as statistical tables and figures are provided. The appendixes consist of student instructions for the two writing assignments and an audience coding scheme.) (FL)

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The Effects of Friendly and Adversarial Audiences upon the Argumentative Writing of a Group of High School Seniors and College Students: A Developmental Perspective

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Running Head: Friendly and Adversarial Audiences

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Abstract

This study analyzed argumentative essays written to both friendly and hostile audiences by high-school seniors and college undergraduates. After holistic rating, papers were analyzed for degree and kind of audience activity. Hostile-audience papers were also coded for their rhetorical bases of justification of argument. Papers were independently rated for writers' levels of intellectual development on a Perry Scheme scale. Results showed level of intellectual development a more significant predictor of holistic paper scores than demographic variables. There were significant relationships between writers' audience activity, holistic paper scores, and levels of intellectual development. Two rhetorical bases showed similar patterns. Four hostile-audience variables--audience strategy and response, and the dogmatic and logical bases of argument--predicted significantly for paper scores and yielded results similar to those obtained when level of intellectual development was added to the regression (beta weights shifted considerably). The hostile-audience paper evoked the most audience activity, both positive and negative, especially dialectical activity.

The Effects of Friendly and Adversarial Audiences upon the Argumentative Writing of a Group of High School Seniors and College Students: A Developmental Perspective

The study reported here explores relationships between levels of intellectual development and argumentative writing performance in a group of high school seniors and college undergraduates, focusing especially on subjects' audience adaptations. Relationships between writing and intellectual development are currently the subject of considerable discussion. Some researchers question the relevance of intellectual maturity to college students' writing performance in general (Berthoff, 1984; Kogen, 1986; Scribner and Cole, 1981) and to their audience responses in particular, asserting that differences in context and learning rather than cognitive threshholds may account for discrepancies in such writers' abilities (Bartlett and Scribner, 1981; Burleson and Rowan, 1985; Gundlach, Litowitz, and Moses, 1979). Other theorists see the potential utility of developmental models but also issue cautions about them, noting that some may be ethnocentric and culture-specific, and that all are liable to oversimplification and abuse (Brannon, 1985; Lunsford, 1985).

On the other hand, those who advocate the usefulness of developmental models for the general college setting point to the many studies demonstrating that significant intellectual development takes place not just in childhood but also during the college years (Gilligan and Murphy, 1979; King, Kitchener, and Wood, 1985; Kohlberg, 1969; Loevinger, 1976; Perry, 1968; also see Hays, in press). More narrowly, to the extent that writing abilities develop

gradually over an extended period of time, that writing itself is a cognitive activity (Flower and Hayes, 1980), and that audience adaptation requires the ability to decenter--to infer another's needs for information in writing--we should expect both writing and audience adaptation skills to have developmental aspects. And to the extent that general intellectual development continues throughout the college years and beyond, it seems likely that writing abilities also are not fully in place when students reach college. By and large, college freshmen do not write like seniors, and seniors do not write like graduate students.

There are several different schema of adult intellectual and ethical development, each with a slightly different focus, but all these rubrics suggest a movement throughout young adulthood from relatively simple to complex thought. One developmental model of special interest to writing researchers is William Perry's model of intellectual and ethical development during the college years (1970). The Perry Scheme traces students' intellectual evolution during college from a rigid and dualistic thought that assumes the absoluteness of "truth" to a posture that accommodates the provisional and multi-dimensional nature of knowledge and recognizes its contextual relativism (see Figure 1).

Insert Figure 1 about here

Indices of intellectual development like those described by the Perry Scheme can, we believe, illuminate students' argumentative writing in general, especially indices related to epistemology, ontology, and to reasoning style, since how an argument is developed

and how one uses logic. Drawing upon the Perry Scheme, Kurfiss (1984) suggests developmental components in college students' writing abilities. Maddox (1983) and Hays (1983) have noted traits in college students' general writing that parallel positions in the Perry Scheme. Shapiro has also established significant relationships between college students' Perry Scheme positions and their writing performance (1985).

Many characteristics described by the Perry Scheme are particularly relevant to the study of audience adaptation, most obviously those reflecting the maturing student's gradual awareness of tenable viewpoints other than her own. Recognizing the relativism of knowledge and its dependence upon context means knowing that others don't necessarily share one's assumptions, that these assumptions must, therefore, be clarified. It also means that one must both supply adequate reasons for one's positions and anticipate questions and objections from those who think differently. More narrowly, writers must recognize what information readers will need to understand the writer's message. Thus a writer wishing to communicate clearly must anticipate her reader's responses to what she writes. The more transactional the writing, the greater this need will probably be.

Presumably, the ability to make accurate inferences about readers' needs depends upon "social cognition," which Shantz defines as "the . . . intuitive or logical representation of others, that is, how [one] characterizes others and makes inferences about their covert, inner psychological experiences" (1975, p. 258). Using various developmental perspectives, researchers who have studied

children's and adolescents' "role-taking" and social-cognitive abilities have established sequences in their acquisition (Flavell, 1974; Flavell, Botkin, Fry, Wright, and Jarvis, 1968; Glucksberg, Krauss, and Higgins, 1975). In writing research, Rubin has proposed a multi-dimensional model of social cognition, many of whose components are developmental (1984). A number of studies have explored developmental patterns in writers' audience adaptations, finding such components in writers' abilities to adapt to their readers in persuasive (or argumentative) and narrative writing (Crowhurst and Pichè, 1979; Hays, 1984; Kroll, 1984a; Maddox, 1983; Rubin and Pichè, 1979; Rubin and Rafoth, 1986; Rubin, Pichè, Michlin, and Johnson, 1984). Hays (1983), Maddox (1984) and Shapiro (1985) have established links between college students' adaptations to their readers and their levels of development in the Perry Scheme.

On the other hand, it is not clear to what extent social-cognitive ability in writing develops from innate qualities or from learning. Several researchers have shown that children's audience adaptation in writing improves when they are given advance information about their readers and those readers' needs (Kroll, 1984a; Scardamalia, Bereiter, and McDonald, 1978;); however, such improvement is differential rather than global (Gray and Hudson, 1984).

Yet the two perspectives--"developed" versus "learned" social-cognitive and writing abilities--are not mutually exclusive. Most developmentalists agree that higher-level intellectual development is not automatic but depends upon the person's "readiness" for it <u>in combination with</u> an environment that requires such functioning. Development takes place when learners "assimilate" and/or "accommo-

date" to new and complex ideas and experiences and so construct new cognitive frameworks (Kurfiss, 1983). Thus higher-order cognitive development is both innate ("stage readiness") and learned (constructed in interaction with the environment), and the fact that general higher-level cognitive development takes place in certain kinds of American college settings has been widely demonstrated (Kurfiss, 1976; Mentowski, Moeser, and Strait, 1983; Perry, 1970; Widick, 1975). At least two schemes of intellectual development have also been validated in other literate cultures (Nisan and Kohlberg, 1982; Kitchener and Wood, 1984).

While it is perhaps true that, in Kroll's words, "most instances of [cognitive] egocentricity in college-level writing [may be] situational, the natural result of an inexperienced writer's attempt to communicate in an unfamiliar medium and in an unfamiliar context" (1984b, p. 182), we suspect that cognitive thresholds are also involved. For example, Rafoth found that proficient freshmen writers were more able than non-proficient ones to use a wide array of concrete information about a reader's attitudes but that neither group much utilized more subtle information that required highly inferential thinking (1985). Rafoth's results suggest to us that even though proficient writers could improve their performance considerably given concrete information, few of his freshmen as yet had the developmental prerequisites to utilize the more conceptual cues.

Just as people's ideas of both themselves and others become more complex as they mature, so we would predict greater sophistication and refinement of audience adaptation in intellectually more advanced writers. The same principle applies to the impact of

context on writing performance: that is, conceptions of one's environment or social milieu become more complex as people mature, and thus more intellectually mature writers should be better able to handle sophisticated social and rhetorical contexts of all kinds.

Yet given the interdependence of higher-level cognition and experience, these may be irresolvable chicken-or-egg kinds of questions. That is, college students may have difficulty writing for certain academic or other readers because they lack experience with such readers and contexts, but it may also be that this lack has denied them the opportunity to develop cognitive structures that would support such performance. Further, the kind of intellectual development discussed here is specific to the current American college environment, a setting that systematically confronts its students with multiple perspectives on reality and requires them to make sense of, and come to terms with, those perspectives. We would expect that intellectual development in cultures organized upon different premises would assume different "surface" forms although the underlying structures and processes would have universal components. However, we work with the writing of American college students, and exploring connections between writing performance and developmental schemes that describe intellectual development in the American college setting seems warranted. That is, knowing more about how American college writers conceive and address their readers enriches both our understanding of the writing process and its development in this culture and our teaching of writing.

In addition, research about audience adaptation in college-level writing relates to the issue of students' critical thinking abilities, a topic that has in recent years interested secondary and

postsecondary educators (Meyers, 1986; Young, 1980; Fuller, 1978). Michael Basseches argues that mature critical thinking moves beyond Piaget's "formal operations" and involves the ability to engage in an internal "dialogue" in which one critically examines her own ideas from various perspectives, particularly antithetical ones (1984; also see Riegel, 1976). Indeed, Haan argues that it is the clash of socially originating conflicting moral and ethical perspectives that leads individuals to develop morally and intellectually (Haan, 1975). Out of such internal dialectic comes a posture that acknowledges opposing viewpoints and the complexity of issues while still achieving provisional resolution of those issues, knowing that this resolution may be open to question as new information or insight becomes available. Such a process assumes a "post-conventional" moral posture (Kohlberg) or a "committed relativism" (Perry) or "integration" (Loevinger) or "Stage Seven Reflective Judgement" (King, Kitchener, Wood, and Davison, 1985).

If, as seems likely, these dialectical abilities originate as literal "internal dialogues" between the thinker and one who might question or oppose him, exercises requiring writers to deal with oppositional perspectives might well stimulate such critical thinking ability, and writers' performances in formulating arguments for oppositional readers might reflect their levels of dialectical thinking ability. In the study to be described here, we examined the effects of friendly and adversarial audiences upon argumentative writing, looking at the ways in which subjects at varying levels of intellectual development adapted their writing to these audiences and how these adaptations were related to their overall writing

performances.

Method

Subjects and Procedures

For this project, we selected 52 students: 12 high-school seniors, 24 college freshmen and sophomores, and 16 college juniors and seniors. High school subjects were randomly chosen from college-bound English classes in a Colorado Springs public high school. Their English classes had stressed reading and writing about literature but also included some work in expository writing. Some, but not all, members of the instructional staff talked to their students about "writing for readers." We included high school students in the study in order to have a baseline for evaluating the development of argumentative writing during the college years. Writing samples were taken near the end of the academic year, and thus the high school students' writing abilities were largely those they would carry into college.

College students were undergraduates at the Colorado Springs campus of the University of Colorado. For the college sample, we recruited subjects from names generated by a computerized random selection of equal numbers of Liberal Arts, Business, and Engineering majors and of freshmen/sophomores and juniors/seniors. We sent subjects a postcard inviting them to participate in the project and offering them $15. for their participation.

Response was uneven, and thus we ended up with disproportionately large numbers of Liberal Arts subjects and of freshmen and sophomores. We advertised for additional subjects, but once again

had difficulty recruiting Engineering and Business majors and juniors and seniors. Our final sample included 29 Liberal Arts, 11 Engineering, and 12 Business majors. (We assigned high school subjects to major areas on the basis of their anticipated majors in college.) We excluded those subjects for whom English was a second language. The group's mix of college-age (16-22) and older (23-55) students allowed us to assess age-versus-educational factors in writing development.

Subjects wrote argumentative papers on two different occasions, and had as much time as they wished to complete each assignment although most finished in under three hours. In the first essay, writers were instructed to take a position on the proposed tough drunk driving laws then before the Colorado legislature and to write their paper for a "friendly" audience, one that would on the whole agree with their position; several such audiences were suggested (see Appendix A). To ensure that subjects were aware of their readers, at least initially, we asked them to note on their assignment sheet which audience they planned to address. Writers completed the second assignment two to seven days after the first. The topic was exactly the same except that they were instructed to write to an audience that would on the whole be hostile to their own viewpoints. Again, several such audiences were suggested (see Appendix B). Subjects did not know in advance of Session Two what the topic would be.

In designing the writing task, we hoped to elicit critical thinking and writing typical of academic discourse. Yet we felt that too narrowly academic a subject would handicap our high school students. Consequently, we tried to find a general topic that would

lend itself to critical analysis and at the same time be as familiar and relevant to high school as to college students. Drinking and driving seemed to meet those criteria. As it turned out, the choice was more relevant than we had anticipated, for a week before the first writing session, a drunk driver traveling ninety miles per hour killed an entire family that was walking in downtown Colorado Springs. The driver had had several prior convictions for drunk driving, and the incident generated a great deal of publicity and community outrage. Thus our subjects were keenly aware both of the drunk-driving issue and of the legal system's limitations in dealing with it.

We selected an argumentative task because Crowhurst and Piché (1979) and Berkenkotter (1981) had shown that subjects attended more to their readers in persuasive than in narrative discourse. Further, argumentation about social issues presupposes that some person or group is being argued with--is critically questioning one's assertions. Thus general social argument resembles much academic discourse: one tries to persuade one's readers to assent to or at least to consider one's point of view but not necessarily to take particular action. Finally, we suspected that, in general, argumentative writing would be cognitively more taxing than expressive or explanatory discourse and thus most apt to reveal differences in subjects' intellectual abilities.

We specified a group audience rather than an individual reader because the group situation seemed more closely to replicate the "discourse community" or general audience of most academic or professional writing (Walzer, 1985). At the same time we felt that the

local audiences we suggested were specific enough to give students the sense of a particular readership. Our descriptions of these audiences, however, offered writers little concrete information about them and so required subjects to reason out what they could about certain kinds of readers and their attitudes. We did not coach subjects in audience adaptation since we wanted to see what they would do apart from such intervention.

We selected the friendly audience-hostile audience assignments to see if student writers could and would vary their treatment of the same topic for differing readers. We also surmised that cognitively less mature subjects would find writing effectively to the hostile audience difficult. That is, the first writing task was like sharing common, not too closely questioned views with a like-minded reader. A writer needed to discern what her readers knew and would need to know about the subject, what their biases were, and how they would respond to the text as they read it. But in the second task, in order to do well she also had critically to examine her own views from the perspective of those who would disagree with her and then surmise how her perspectives would impinge on and interact with those of her readers. In short, she needed to imagine herself in a searching dialogue, or dialectical interaction, with her readers, a more cognitively demanding task than the first.

Scoring

A research assistant removed all identifying information from the papers. Three trained raters independently evaluated all 104 papers, using a criterion-referenced rating scale. The friendly-

audience and hostile-audience papers were rated at separate sessions. For the rating instrument, we used a modified version of the holistic rating rubric used in the University of Colorado at Colorado Springs English 131 exit examination, an essay test which all students must pass to exit from the entry-level course in freshman composition. This rubric in turn was influenced by Cooper's analyses of holistic criteria (1977), by the Diederich scale (1974), and by some of the assumptions of primary trait scoring--namely, that rating criteria should differ according to the type of discourse being evaluated (Lloyd-Jones, 1977). The English 131 competency exam rubric was designed to evaluate analytic writing, and thus we modified our instrument to assess argumentative writing. Criteria for argumentative writing derived from Classical rhetoric, the discourse studies of James Kinneavy (1971) and of Britton and his associates (1979), and from Stephen Toulmin's theory of argument (1958). Our general criteria for audience adaptation were influenced by James Moffett's theories (1968) and also by some tenets of "Rogerian" rhetoric (Young, Becker, and Pike, 1970, pp. 172-183).

We used four rating categories: (1) quantity and quality of the paper's ideas and development, including depth of development and elaboration of ideas; (2) clarity and logic of structure, organization, and focus, at both the entire-paper level and within paper sections and sub-sections; (3) clarity and effectiveness of paper's argument for readers, and (4) correctness and felicity of syntax and usage. We did not expect our student writers to engage in sophisticated audience manipulations, but we did assume that to be effective with its readers, a paper would be clear, reasonable, and would address readers' interests in and concerns about the drunk driving

issue--or at least not antagonize those readers.

Each category was rated from 1 to 4, and raters' scores were summed to achieve an overall score for each paper; these ranged from 13 to 44. A standardized Cronbach's alpha showed the reliability of the sum of the three ratings to be .83.

Intellectual Development Ratings

In order to ascertain subjects' levels of intellectual development, we submitted their hostile-audience papers to the Syracuse Rating Group, a research team that uses a rubric based upon Perry Scheme criteria to assess subjects' levels of intellectual and ethical maturity. The Syracuse raters did not know how the writing raters had evaluated the papers; conversely, two of the writing raters were unfamiliar with the Perry Scheme, while the third knew the Perry Scheme in a general way but was not familiar with Perry Scheme rating criteria and rubrics. Thus the two types of evaluation--writing and intellectual development--were independent of each other.

Two members of the Syracuse Group separately rated the papers, later working together to achieve consensus. A third rater assisted in resolving difficult cases. Pearson's r for raw (unresolved) scores was .72. Because intellectual development does not proceed evenly but moves ahead in some areas while others remain constant, most assessments of intellectual development rate subjects in several domains. The Syracuse Rating Group examined three areas for what they revealed about subjects' conceptions of "knowledge," "action" (view of the self as acting or acted upon and the subject's

reasoning style; this category is a "performance" measure), and "learning environment" (subject's attitudes about authority, evaluation [in the learning setting], and peers; subject's learning style). Each subject was assigned a rating in each category; thus the final Syracuse rating had three contiguous digits. For example, a student rated "2-2-3" would be at Perry Scheme Position Two in reference to knowledge and action, and Position Three with respect to learning. Scores on the Syracuse ratings in this study ranged from "2-2-2" to "7-7-7," with the majority of essays focused in the "3-3-3 to 3-4-4" area. Each subject's domain scores were summed to achieve a total Perry Scheme rating; these ranged from 6 to 21, with the mean summed Perry Scheme score being 9.5, or an average of Position Three, "early Multiplicity." (Although the Perry Scheme includes nine positions, in practice most college students place in Positions Two through Five. Change in Perry Scheme position is slow; typically, students advance only one to two positions during their undergraduate careers; Mentowski, et.al., 1983.)

Audience Analyses

We used an analytic coding system to label each audience consideration that appeared in the texts. In designing this schema, we attempted to find objective indicators that subjects had considered their audience. The skeleton of the coding resulted from past research (Berkenkotter, 1981; Britton, et.al., 1975; Flavell, et.al., 1968; Hays, 1981) and theory (Kinneavy, 1969; Moffett, 1965); we then added audience adaptation indices appearing consistently in this particular sample. We divided the text coding into five main

categories:

(1) Naming readers. The first and simplest category coded for any terms that named the audience, such as "you," "your," "Bar and Tavern Owners," "Colorado Highway Patrol," "MADD." We coded this naming category because it reflected an obvious although often not very sophisticated awareness of the reader.

(2) Strategy; implementing tactics that recognize readers' attributes or seek to convince readers. The strategy category reflected a writer's awareness of the reader that went beyond naming that audience to defining it and implementing tactics to convince it. This recognition of readers and subsequent inferring of their needs, values, and perspectives is fundamental in the shift from "reader-based" to "writer-based" prose (Flavell, et.al., 1968; Flower, 1969). We divided this category into eight sub-categories that labeled specific kinds of strategy activities.

(3) Context. This category coded for instances in which the writer explained the context for the reader by establishing persona, explaining the laws, stating the issues, giving his or her position on those issues. These instances usually occurred in the paper's opening section.

(4) Response, accommodation; engaging in an audience-related dialectical process. Moves in this category articulated readers' worries about or objections to the writer's position and then explained why the reader need not be concerned. Although often not including a full-fledged thesis, antithesis, and synthesis, moves in this category went beyond the definitional and strategic moves in the strategy category to engage the reader in argumentation. That

is, the writer recognized what the reader's objections to her argument might be and tried to address those concerns in a convincing manner. Such tactics were obviously audience-related; we did not count dialectical activity not specifically tied to the readers' concerns.

(5) Inappropriate or negative appeals. This category included both references to the audience in which the writer blamed readers or attempted to make them feel guilty and arguments that were inappropriate or ineffective for the specified reader. This category evolved with the development of the coding; that is, perjorative statements and inappropriate appeals appeared with such frequency and were so apparently reader-associated in terms of the negative effect they would have on the reader that we felt compelled to code them. In part, the Inappropiate codings helped us to identify places in which writers had addressed one audience and actually invoked another (Ede, 1984), and thus created an audience "role" that their readership might not be willing or able to "play" (Ong, 1975).

(6) Writer-Based. In this category, we noted instances in which the writer failed to consider readers' needs for clarification of terms or used vague language or ambiguous pronoun references. Our coding in this category was very conservative to avoid overlap with grammatical concerns. The entire coding rubric is reproduced in Appendix 3.

One researcher coded the papers' audience moves. To test her reliability, we utilized two raters who had no previous involvement with this research project. After training the independent raters in the audience coding rubric, we gave them 75 textual examples to

code according to the rubric's "interpretive" categories (we omitted extremely explicit moves, such as naming readers, as not requiring validation). A standardized Cronbach's alpha established that on these 75 examples, consistency among the three raters--the two independent evaluators and the original rater--was .99. In tabulating the audience scores, we simply counted the number of times each coding appeared.

Rhetorical Basis of Justification of Argument

In another part of the overall study, the senior researcher had conducted a preliminary study of subjects' uses of various rhetorical modes in their essays. As part of this study, she coded the hostile-audience texts for rhetorical basis of justification of argument. High correlations between these basis categories, Perry Scheme ratings, paper scores, and audience activity suggested promising connections between the rhetorical bases upon which writers justified their arguments and their levels of intellectual development. Therefore, we include these basis categories here; at present, findings involving these categories are primarily descriptive.

The rhetorical basis of argument rubric coded each T-unit in the hostile-audience texts and classified it according to the kind of argument or posture it reflected in the context of the whole discourse. The five basis of argument categories were derived from rhetorical classifications of discourse somewhat modified by postures appearing in the papers examined here. The categories were:

1) Dogmatic--assertions evidently based on absolute, unidimensional assumptions about reality. Such pronouncements are

found in sermons or political polemics in which the writer grounds the argument in a religious, philosophical, or political doctrine that is accorded the status of a priori truth. In our study, such assertions often had a moralistic flavor. Typically, dogmatic arguments contained few or no qualifiers--for example, "Drunk driving is a sin and should be punished," or, "There is no excuse for getting drunk and then driving at anytime." In the text, this latter assertion was delivered as a fiat, not led up to or supported with any argument; therefore, it was classified as dogmatic although in another context it might have introduced or concluded a section of argument and thus have been coded differently.

2) Emotional--both direct emotional appeals and dramatic accounts leading up to such appeals. In our study, these included graphic descriptions of accidents caused by drunk drivers, descriptions that culminated in emotional appeals.

3) Pragmatic/Utilitarian/Realistic--factual analysis, explanation, empirically-based discussions, problem-solving approaches to the drunk-driving issue, appeals to readers' self-interest, other kinds of discussion oriented towards practical action. For example, the following statement--"Many, if not the majority, of [automobile] accidents involve drunk drivers"--was classified as Pragmatic because it related factual information. "Bartenders can install breath-a-lyzers so their customers will know if they can drive safely" was also considered pragmatic since it suggested practical action.

4) Logical/Rational--propositional or syllogistic or hypothetical reasoning--for example, "If a lobby in opposition of the

laws succeeds, what will be our gain? Sales of alcoholic beverages will probably remain nearly stable while our public image may have suffered greatly." Here, the argument was both propositional and hypothetical and so was classified as Logical/Rational. On the other hand, a statement such as "We tried prohibition once, and it did not work" was classified as pragmatic since it stated what is generally considered historical fact (prohibitionists might disagree). If, however, the writer went on to say, "In the same way, if we try to control drunk driving with punitive laws, we will create another situation in which the law is widely disregarded," we classified that chunk of the discourse as logical/rational since it was both deductive and hypothetical.

5) Ethical--arguments based upon appeals to some value system or ethical principle: for example, "Support of this law is your opportunity and mine to act responsibly and courageously to protect those values we all hold dear." Here, the statement followed several propositions establishing freedom and responsibility as commonly held values. The ethical basis differs from the dogmatic in its assumptions about the nature of values--namely, that they are consensual rather than absolute and that they may vary from one context to another. In using an ethical appeal, the writer must try to elicit the audience's agreement about the value appealed to, not just assume its a priori and universal character. In tabulating the rhetorical basis of argument data, we simply counted the number of T-units coded in each category.

In summary, in this study we explored the following premises:

1. in argumentative writing, writer's level of intellectual

than would age, grade, major, or gender;

2. in argumentative writing, audience adaptation activity would be a significant predictor of overall paper scores;
3. in argumentative writing, writers' levels of intellectual development would be significantly related to general audience activity;
4. in argumentative writing, addressing an adversarial audience would elicit more dialectical activity than writing to a friendly one;
5. in argumentative writing, the rhetorical bases upon which writers justified their arguments would be related to their levels of intellectual maturity.

Findings

Data Analysis

In analyzing these premises, we constructed several path models. Since one of our premises focused on the issue of "learning vs. innate" structures in intellectual development, our first model (PATH MODEL I) analyzed the relationship of several demographic variables to both intellectual development and holistic paper scores. The second path model explored the relationship of intellectual development to various audience moves and holistic paper scores. The third path model examined relationships between rhetorical bases, level of intellectual development, and paper scores, while the fourth explored the relationships of four key writing

variables to both level of intellectual development and paper scores. We used stepwise multiple regressions with a forced-entry method in all analyses, with fifty-two (pairwise) cases in each regression equation. Beta weights and usefulness indices were generated for all equations in order to measure individual influence and utility of the predictor variables to the criterion variables. For this study, usefulness indices were calculated as the percent-change from the multiple R correlation with all interested variables in the equation to the multiple R correlation with the same independent variables but excluding the predictor variable of primary interest.

PATH MODEL I consisted of four demographic variables at time one (t1): age, grade, sex, and major. At time two (t2) was level of intellectual development (as measured by Perry Scheme score). Holistic paper score (for either the friendly audience [score fr] or the hostile audience papers [score hos]) was used as the dependent variable at time three (t3).

In designing this six-variable model, we proposed that a significant relationship would occur between the demographic variables at t1 and Perry Scheme score at t2. We also proposed a strong relationship between Perry Scheme score and holistic paper score (t3). We predicted that Perry Scheme score would be the intervening variable for any relationship occurring between the demographic variables at t1 and paper score at t3. This path model is conceptualized in Figure 2.

Insert Figure 2 about here

We designed the second model (PATH MODEL II) to take a closer look at level of intellectual development and its relationships to audience moves and paper scores. In this model, the audience moves were positioned at t1, while level of intellectual development (Perry Scheme score) was positioned at t2. Holistic paper scores were again placed at t3. The audience moves included naming, context, strategy, and response as well as total positive moves and total negative moves. Total positive moves were computed by summing the naming, context, strategy, and response moves; total negative moves were the summation of inappropriate and writer-based moves (see Figure 3). The audience moves at t1 were analyzed in pairs since subjects generated repeated measures, one measure from the friendly-, the other from the hostile-audience paper. By analyzing these measures in pairs, we could statistically remove (through use of beta weights) their individual influence and thus measure not only their joint relationship to the criterion variables but their individual relationships as well. Thus, we controlled for any possible "learning effect" that might bias the outcome.

Insert Figure 3 about here

In the third path model (PATH MODEL III), we placed four rhetorical bases of justification of argument--dogmatic, pragmatic, logical, and ethical--at time one (t1; preliminary analysis had revealed that the fifth basis category, emotional, was not significantly correlated with either holistic paper scores or level of intellectual development, so we dropped it from further analysis). At time two (t2) we placed level of intellectual development, as

measured by Perry Scheme score, with holistic paper scores at time three (t3). With this six-variable model, we proposed that a significant relationship would occur between basis of justification of argument and intellectual development at t2 and between level of intellectual development and holistic paper score at t3. This model is depicted in Figure 4. Again, through the use of beta weights, we could explore the individual influence of each variable as well as their joint relationship to the criterion variables.

Insert Figure 4 about here.

In PATH MODEL IV, we looked more closely at the relationship of level of intellectual development to two key rhetorical basis moves and two key audience moves, and at all of these variables to holistic paper scores. We placed the key basis of argument categories, dogmatic and logical, and the two key audience moves, strategy (hos) and response (hos) at t1 and level of intellectual development (Perry Scheme score) at t2. At t3, we again placed holistic paper scores; the model is depicted in Figure 5. Once again, we used beta weights statistically to remove individual influences. Thus we were able to examine possible common factors between level of intellectual development, rhetorical basis of justification of argument, and audience moves.

Insert Figure 5 about here.

Demographic Analysis

A stepwise multiple regression analysis run on PATH MODEL I

showed grade to be the only significant predictor of level of intellectual development (R= .46), accounting for 21% of the variance. When the three remaining demographic variables (age, sex, and major) were forced into the regression equation, the change in R was just 9%, or a 5% increment in the variance explained. Note that the beta weights for these three measures were not significant.

Grade was also the only significant demographic predictor of holistic paper score (R[fr]= .42, R[hos]= .46), accounting for an averaged 19% of the variance. When age, sex, and major were, again, forced into the equations, the average change in variance explained resulted in a 5% increment. Note, again, that the beta weights for grade were the only significant contributors to holistic paper scores (that is, age, sex, and major were not significant; see Table 1).

Insert Table 1 about here.

However, when level of intellectual development was examined as a possible intervening variable between the demographic variables and paper scores, grade dropped below significance level (all other demographics remained well below significance). The resultant R's and beta's (in parentheses) for level of intellectual development and holistic paper scores were R[fr]= .54 (b= .39), R[hos]= .63 (b= .50) and accounted for an averaged 34% of the variance. The average variance explained increased by 6% when the four demographic variables (grade, age, sex, and major) were forced into the equation (see Table 2).

Insert Table 2 about here

Although this model shows grade to be the single best predictor of intellectual development, the fact that it contributes just 21% of the variance suggests there are other components of intellectual development not being measured by any of the demographic factors in our model. Note again that intellectual development was a more significant predictor of paper score than any of the demographic components we measured, either singly or in combination.

Audience Analysis

Multiple regression equations (using the forced-entry method) run on PATH MODEL II resulted in high correlations between intellectual development at t1 and audience moves at t2. More specifically, there were high correlations between the positive- and negative-category totals (total positive moves, total negative moves) and Perry Scheme score and the individual paired moves of strategy and response. The naming and context paired moves were not significant although the context (hos) beta weight was. Each of the paired-category totals (friendly and hostile) accounted for 14% of the variance in Perry Scheme score. The significant paired individual moves (strategy, response) accounted for 20% and 18% of the variance respectively.

These same regression equations also resulted in high correlations between audience moves at t2 and paper scores at t3. When we examined the paired moves individually, the strategy and response moves were significant predictors of paper scores (see Table 3), explaining an averaged 30 and 37% of the variance, respectively. The naming and context moves were not significant. Note, however,

that while the strategy measures were more highly correlated with the friendly-audience paper score, the response moves were more highly correlated with the hostile-audience score, a finding suggesting that the adversarial audience indeed elicited more dialectical activity than did the friendly one. In fact, except for the strategy category, whose beta weights were evenly distributed between friendly and hostile moves on score fr, beta weights show that all audience activity was significantly greater with the hostile-audience task.

Insert Table 3 about here

Both the total positive moves and total negative moves also showed higher correlations to paper scores (hostile and friendly) than to intellectual development. Significant betas occurred, for the most part, with the measure taken from the hostile rather than from the friendly audience.

When intellectual development was included in the analyses of audience moves, correlations to paper scores increased dramatically--by an average of 44%, with the increase in variance explained averaging 27% (see Table 4 for comparison). Beta weights also showed that Perry Scheme score was more significantly related to paper scores than were the hostile audience moves. This finding would suggest that intellectual development (as measured by Perry Scheme) is, at least in part, contributing differently to paper score than are audience adaptations as measured by our index. In order to examine what some of these differences might be, we allude to the rhetorical bases upon which writers justified their

arguments.

Insert Table 4 about here.

Basis of Argument

A stepwise multiple regression run on PATH MODEL III showed the logical basis to be a significant predictor of level of intellectual development (R = .63), accounting for 39% of the variance. When the three remaining basis variables were forced into the regression equation, the change in R was just 5%, for a 7% increment in the variance explained (see Table 3). The beta weights of these three variables were not significant. However, when holistic paper score was the dependent variable, three of the basis moves, dogmatic, logical, and pragmatic, were significant predictors with a multiple R for the four basis variables accounting for 45% of the score fr variance and 61% of the score hos variance (R[fr]= .67, R[hos]= .76). Beta weights for the three key basis categories were all significant; only the ethical basis did not significantly predict for either paper score (see Table 5).

Insert Table 5 about here.

When Perry Scheme score was added as an intervening variable in the regression equation, the multiple R's changed only a little (R[fr] = .70, R[hos] = .79). However, the beta weights of the basis variables were altered significantly (see Table 6). For example, the logical (score fr) beta weight decreased by 16 and the logical (score hos) by 17 points when Perry Scheme score was added to the equation. These shifts suggest significant overlaps between the

logical category and level of intellectual development. In other words, of that activity predicting for holistic paper score that was attributable to Perry Scheme score, a substantial portion was the kind of activity also measured with the logical basis coding category. Further, in the score fr equation, the logical beta weight dropped below the level of significance when Perry Scheme score was added to the equation, a finding suggesting that Perry Scheme score not only contributed more heavily to the multiple R than did the logical basis but that it also included factors besides logical reasoning.

Insert Table 6 about here.

Combined Key Audience and Basis of Argument Variables

Preliminary analyses for PATH MODEL IV revealed a pattern in which introducing either Perry Scheme score or the dogmatic or logical basis into the regression equation with the paired audience move being analyzed raised the multiple R substantially. Entering both the basis of argument category and Perry Scheme score together increased the multiple R enough further to account for another 1-10% of the variance, compared to that accounted for by the addition of Perry Scheme score alone to the regression equation. In most cases, examination of the beta weights shows considerable commonality between the impact of Perry Scheme score and either the dogmatic or logical category upon the paired audience move and upon the variance in holistic paper score.

In these final basis equations, we isolated four variables as

contributing most to the multiple R's in paper scores--the dogmatic and logical bases and the strategy and response moves taken from the hostile-audience paper. We then ran two equations for each paper score, one with the four writing variables only and one with the addition of Perry Scheme score to those four variables.

In the score fr equation, the logical basis was entered on step two (R = .62, B = .35) but was removed on step five, after response (hos) had been entered (R = .70). When the logical basis was forced back into the equation, R increased to 71 for an increase of only 1% in variance explained. This pattern suggested some area of commonality between the logical basis and the response category as predictors for score fr; the dogmatic basis also was a significant predictor for score fr. With score hos, the logical basis and the two audience categories (strategy [hos], response [hos]) were significant while the dogmatic basis was not (see Table 7). Addi-

Insert Table 7 about here

tion of Perry Scheme score to the equations changed the multiple R's very little (see Table 8). Examination of the beta weights

Insert Table 8 about here

suggested that with both score fr and score hos, addition of Perry Scheme score to the equation reduced the proportional contribution of strategy hos and the logical basis to holistic paper score while the contribution of response (hos) and the dogmatic basis were only slightly affected.

Discussion

Implications of Demographic Analyses

In assessing the contributions of demographic variables to argumentative writing performance, we hoped to gain insights about the relative importance of innate (age) and learning-related (grade) factors, with major and sex presumably indicating how certain contexts and kinds of gender socialization contributed to argumentative writing performance. Both the stronger contribution of Perry Scheme score to paper scores and grade's drop below the level of significance when Perry Scheme score was treated as an intervening variable between demographic factors and paper scores suggest that our first prediction was correct: intellectual development was indeed a more powerful predictor of paper score than were age, grade, or other demographic factors. And such contextual factors as major area of study and subject's gender socialization scarcely contributed to either paper score or level of intellectual development.

In particular, our results suggest that level of intellectual development was a more telling factor in students' argumentative writing than was their school-related learning. Thus our conclusions differ from those of Cooper and his associates in their study of a freshmen class at State University of New York--Buffalo, in which they speculate that freshmen in their study wrote poor argumentative papers because they had been actively taught by their high-school teachers and parents to think simplistically, to "fear and shun complexity, and especially to deny moral and legal ambiguity" (Cooper, Cherry, Copley, Fleischer, Pollard, and Sartisky, 1984,

p. 47). We suspect that if some of our high-school subjects wrote simplistic papers--and they did--their performance was related to their level of intellectual maturity as well as to what they had learned at home and in school. The fact that a third of our high school subjects' paper scores were at or above the whole-group mean suggests that, whatever the explanation, a substantial number of these high school students did not think and write simplistically.

Yet we do not mean to imply that learning had no impact upon subjects' argumentative-writing performance. The fact that grade was the only significant demographic predictor of paper score together with the importance of grade as a predictor of Perry Scheme score suggests that years in school do affect both argumentative writing and level of intellectual development. But when grade and Perry Scheme score were examined together as predictors of paper scores, Perry Scheme score was the significant factor while grade dropped below the level of significance. Perhaps many of our high school students' had not so much been actively taught to think simplistically as not been challenged to do otherwise.

What does seem clear is that among our subjects, level of intellectual development had an important impact upon argumentative writing performance and that this impact was especially telling on the hostile-audience papers. But just as intellectual development was more significantly associated with writing performance than was "learning," so too whatever was measured by our index of intellectual development, the Perry Scheme, consisted of more than chronological age and learning--at least, to the extent that "learning" is synonymous with grade in school. We will discuss what some of these

other factors might be when we analyze the basis of argument ratings in this study.

Implications of General Audience Analysis

The stronger that writers' performances were in shaping their messages for their readers, the higher their paper scores were on both tasks. Such findings substantiate prior theory and research--for example, that of Kinneavy--suggesting that successful persuasive/argumentative writing focuses to a considerable degree upon its readers and that in order to perform well on argumentative writing tasks, writers need available to them skills for both adapting to their readers' needs for information and enlisting those readers' support for the writer's point of view.

Further, our study points to what some of those skills might be: clearly those audience tactics that we considered under the heading of strategy were important for both papers. This strategy category included such activity as the writer's appealing to the reader's self-interest with respect to the proposed laws, aligning herself with readers and their interests, defining and praising readers, and pointing out to them their obligations, choices, and possible actions respecting the laws.

To engage in strategy activity, writers needed not just to be aware of their readers but to approach them in a cooperative way. In order to do this, they had to present themselves as having some common interests with their readers as well as understanding and indeed valuing them. They also needed to consider the proposed laws from their audience's point of view--to see "what was in it" for

this particular constituency.

For obvious reasons, our writers found such activity easiest on the friendly-audience paper. Since they had chosen a readership that would be sympathetic to their own viewpoints, it was relatively simple for them to identify with that audience, to present the audience's case as if it were their own, which in many ways it was. Engaging in effective strategy activity with the hostile audience was, presumably, harder since it required writers to form a rhetorical alliance with readers with whom they disagreed, an activity that would be more difficult for students at lesser levels of intellectual development. As it turned out, there was a strong relationship between effective strategy activity on the hostile papers and level of intellectual development (see Tables 3 and 4). Although frequency counts showed that all writers engaged in somewhat more strategy activity on the hostile-audience paper, clearly not all of that activity was effective.

On the friendly papers, successful writers were most apt to characterize or define their readers to those readers (strategy 3)--for example, "You Mothers against Drunk Driving know the dangers that drunk drivers pose to your children." Such a ploy is effective in argumentative writing because it conveys the writer's understanding of the reader's position. It is a bridge-building device between writer and reader, and such tactics are especially important with an adversarial audience. However, writers did less defining of their readers on the hostile-audience than on the friendly-audience paper, perhaps because they found it more difficult sympathetically to conceptualize the hostile readers' interests and concerns.

On the hostile-audience paper, most effective writers utilized

strategy 6 (hos), "praises, supports audience," and strategy 7 (hos), "shared features." The significant relationship between Strategy (hos) and Perry Scheme score (see Table 3) leads us to surmise that more intellectually mature writers could view their adversarial readers as having some attributes worthy of praise even though writers disagreed with those readers' positions on the drunk-driving laws. In the same way, mature, effective writers also recognized the importance of aligning themselves with their audience--through appreciation of that audience and recognition of what the writer had in common with it--rather than confronting readers adversarily. Such postures involve the awareness that there are responsible people with valid concerns on all sides of most issues; this kind of perspective is achieved with higher-level intellectual and ethical development. Probably many subjects in our group could establish a common bond with their friendly audience but only those at higher levels of intellectual development could also do so with hostile readers.

To summarize, strategy activity was an important predictor for both paper scores. On the friendly-audience paper, such activity was equally attributable to level of intellectual development and to other factors, one of which was probably learning. On the hostile-audience paper, however, a larger proportion of the effective strategy activity was linked to level of intellectual development--specifically, "praises, supports audience" (strategy 6 [hos]) and "shared features with audience" (strategy 7 [hos]).

The other positive audience category that predicted strongly for both papers was response, which measured writers' dialectical

activity and accounted for 25% of the variance on score fr and 50% on score hos (see Table 1). In our schema, we coded for three kinds of response: response 1, "stating readers' concerns or obections to the point the writer was making"; response 2, "giving reasons for those reader concerns"; and response 3, "answering those concerns"--a rebuttal or synthesizing move. Results indicated considerably less response activity on paper fr than on paper hos. These differences suggest that on the friendly-audience paper, only a few of our writers inferred, articulated, and then responded to their readers' views. Rather, most subjects apparently assumed that it was unnecessary to anticipate readers' objections to the proposed drunk-driving laws since readers were, by stipulation, friendly. Only a few writers considered that, for example, although members of the Colorado Highway Patrol generally supported tougher laws, they might also be concerned that stricter laws would add to their work loads or lead to more plea bargaining rather than to the imposition of heavier penalties on drunk drivers.

On score hos, both the amount of response activity and its significance increased sharply. Evidently, the hostile readership made writers more aware of the fact that they had to justify their own views on the drunk-driving issue because readers would not automatically agree with those views. Those writers who most successfuly argued their own positions did so in part by actively anticipating and then responding to their readers' probable concerns and questions about those views. As we had predicted, the adversarial audience did elicit far more dialectical activity than did the friendly one, and it was this dialectical activity, as measured by response, that predicted most strongly for score hos--more so than

the sum of all the positive audience moves (see Table 3).

We had also predicted that response activity would be a significant predictor for Perry Scheme score, and so indeed it was. However, the fact that the overlap between response (hos) and Perry Scheme score on score hos was less than we might have anticipated implies that something other than what was measured with Perry Scheme score accounted for the high significance of response (hos) with score hos. We already know from the demographic analysis (Table 2) that in the presence of Perry Scheme score, the impact of grade on paper scores dropped below the level of significance. We can surmise that a substantial amount of dialectical activity was not attributable either to learning or to level of intellectual development as we measured it. It is possible that a different measure of intellectual development--one whose criteria included more specifically dialectical reasoning than does the Perry Scheme measure--might explain this discrepancy.

In our study, the context (hos) activity was significantly related to score hos. We infer from this finding that the adversarial audience had some effects upon writers' supplying of orienting background information for their readers. These findings may suggest that subjects at higher levels of intellectual development recognized that their readers were not privy to the writer's own frame of reference and that, therefore, the writer needed to spell out the problem to be discussed. Even though the context category was not significantly related to Perry Scheme score (see Table 3), addition of Perry Scheme score to the regression equation had a substantial impact on the context (hos) <u>beta</u> weight (see Table 4).

Analysis of the pairwise negative audience moves also suggests that not only were writers' positive audience adaptations linked to their general argumentative writing performance but also that their inability to deal appropriately with their readers adversely affected their argumentative writing. Specifically, the results suggest that some writers in our study could not address a hostile reader effectively. Apparently, those writers who in addressing their friendly readers used relatively few inappropriate or writer-based moves dramatically increased such activity in addressing hostile readers, those who disagreed with them.

The greater impact of negative activity on hostile-paper scores than on Perry Scheme score might suggest that some of this inappropriate activity was indeed learning-linked, that ineffective writers simply hadn't been taught how to address adversarial readers in appropriate, non-antagonistic ways. However, intellectual development was without question a significant component of writers' negative audience activity (see Table 4).

Analysis of the texts revealed that most of this counterproductive audience activity was attributable to the inappropriate category since writer-based frequencies were small--partly, at least, because of our extreme conservatism in coding for these moves. In the inappropriate category, it was the "inappropriate argument for audience" moves that led to high scores. In other words, writers who scored heavily in this category most often mounted arguments that were irrelevant to, and thus ineffective with, their specified audience.

We suspect that some subjects had difficulty staying focused on the stipulated readers--that the audience they invoked differed from

the audience they were ostensibly addressing. In the papers themselves, we noticed that some writers tended to lose sight of their readers--to start out and conclude by writing to, say, bar and tavern owners but in the middle of their papers drift into arguments that seemed addressed more to an audience of teen-agers or bar patrons than to owners. Some of this drift may have resulted from writers' inexperience--our high school students especially may simply not have known what sorts of arguments would be effective with business people in the beverage industry. But the contribution of Perry Scheme score to the regression equations with negative audience moves (see Table 2) suggests that a substantial part of this audience drift was linked to level of intellectual development. Again, we suspect that less intellectually mature writers had difficulty both conceptualizing and relating appropriately to readers very different from themselves, presumably because their social cognition skills were not yet mature. Thus they tended to substitute a readership they could relate to--for example, other teen agers--for that specified in the assignment. Apparently such substitutions took place below the threshold of consciousness since writers did not acknowledge that they had made such changes.

Basis of Argument Analysis

Clearly audience adaptations generally did predict for both paper scores and to a lesser degree for Perry Scheme score. However, as noted earlier, Perry Scheme score itself predicted more strongly for paper scores than did audience moves. In other words, level of intellectual development contributed to general argumenta-

tive writing performance in areas besides writers' audience adaptations. This independent contribution of Perry Scheme score was especially marked with score hos. Our analysis suggests that the critical posture with which writers approached their arguments reflected their levels both of intellectual maturity and of argumentative writing ability while also influencing their audience performances; these postures were reflected in writers' scores in the basis of argument categories, which were taken from the hostile-audience papers.

That is, the dogmatic and logical basis categories reflect stances towards "reality," especially towards competing realities. In general, a dogmatic or "moralistic" perspective assumes that the nature of reality is a settled issue and thus that The Truth should simply be pronounced. A logical/rational perspective takes it for granted that reality or "truth" can be discovered through the exercise of reason. (Such a perspective would not necessarily deny other, non-rational ways of knowing but would utilize reason as one epistemological tool for knowing.) An ethical perspective assumes some community consensus about what is to be valued and affirmed although the group that constitutes the community may differ for different people. Using any one basis of argument does not, of course, preclude also using others when it is appropriate to do so. Certainly there are contexts and arguments in which any of these bases might be indicated. For example, in our study, some dogmatic argument might have been appropriate with the friendly audience; it was far less so with the hostile one.

However, what the basis of argument codings show us is the

proportion of a writer's argument that was grounded in each of the five bases and the impact of these bases upon writing performance as well as their congruence with level of intellectual development. This impact was not necessarily proportional to the number of times writers utilized a particular basis of argument. For example, writers in our study engaged most heavily in pragmatic argument. While the pragmatic basis did contribute significantly to overall hostile-paper score, its impact was not as great as that of the logical and dogmatic bases, which writers used less frequently. Further, the pragmatic category was not significantly related to writers' Perry Scheme scores, perhaps because all of our writers could ground their arguments pragmatically when it was appropriate to do so while only those at lower levels of intellectual development grounded much of their writing dogmatically (presumably more advanced students could have done so but chose not to) and only those at higher levels used much logical argument.

Writers' relative reliance upon a dogmatic versus a logical basis of argument also indicated something about their ontological assumptions in thinking about "reality," assumptions reflected in their Perry Scheme scores. That is, like the basis of argument category, many of the Perry Scheme criteria involve thinkers' responses to multiple perspectives. In the Syracuse Rating criteria, these are couched as varying attitudes about knowledge, action, and learning, but these attitudes in turn express conceptions of reality and the ways in which it can be known. Ideas of reality differ vastly between the dualist's view of truth as unidimensional, uncomplicated, and "given," and the relativist's perception of it as complex, subject to continuous change, arrived at through a process

of sorting, weighing, evaluating, and held provisionally in full awareness that other points of view are possible. "Multiplists" (those in the middle positions in the Perry rubric) will recognize that genuinely different viewpoints exist but have trouble choosing among them and will tend to assume that any opinion is as good as any other.

Nowhere will such differences be more evident than in dealing with views different from one's own and with those who oppose one's views. Dualists will regard any who fail to adhere to their version of truth as alien and "bad." Multiplists will tend to brush other opinions aside in favor of their own beliefs ("Everybody has a right to her own opinion and therefore mine is as valid as yours") while relativists will recognize that, given other circumstances and information, they might think differently, that intelligent people can and do disagree about many things, and that no one point of view is generally all true or all false. Therefore, they will regard those who differ from them as reasonable people and hope to persuade them to a measure of consensus.

In argumentative writing, these ontological postures will inevitably dictate the ways in which writers treat their subject matter. Dualists will simply articulate their arguments, often with little backing or support. Since they believe there is only one "right" attitude on an issue like drunk driving, they see no reason to belabor that viewpoint. Thus in our study, largely dualistic writers tended to exhort their friendly readers to act on the basis of that "right" view and to scold their hostile readers, presumably for not sharing it.

Of course, few of our subjects were pure dualists ("2-2-2" in the Syracuse coding scheme). Most of those we classified as dualistic were moving towards multiplicity ("2-2-3" in the Syracuse rating) and so recognized that they needed to give some "reasons" to account for their arguments. Thus they also used lots of pragmatic data--factual information about and experience with drunk driving. What they did not do much of, however, was argue from this data to their conclusions by means of some logical ground (we are drawing upon Toulmin's model of argument here); apparently they saw no necessity to do so, since presumably their assertions were grounded in a priori truth and needed no such justification.

In our study, "dualist/multiplists" ("3-3-3" and "3-3-4" in the Syracuse ratings) also used lots of pragmatic argument on their hostile-audience papers, both of the factual-informational sort and of the "problem-solving" variety--i.e., suggestions for practical solutions to the drunk-driving problem such as installing breath-a-lyzers in bars. Further, dualist/multiplists grounded fewer of their arguments dogmatically than did dualists--presumably because they were more aware of other possible viewpoints on these issues--but they also put their own arguments forward with very little critical examination, writing behavior consistent with the attitude that "everyone has a right to their [sic] own opinion--and here's mine."

Such writing behavior produces what some rhetoricians have described as simplistic, "juvenile," cliche-ridden papers (Cooper, et.al., 1984; Miller, 1980)--papers that neither support their arguments with complexity and depth nor critically scrutinize them--largely, we suspect, because their writers see no necessity for

doing so. In our study, only multiplistic/relativistic writers genuinely argued their points of view, marshaling a wealth of complex and in-depth support for their assertions and critically examining their conclusions in ways that responded to possible objections to them or recognized their imperfect and finite nature--and most of our multiplist/relativists approximated such writing behavior rather than fully realizing it.

Key Writing Variables

Finally, our analysis suggests that four key writing variables, the strategy and response moves elicted by a hostile audience, and the dogmatic and logical bases for justifying one's argument to a hostile audience, predicted 50% of the variance in the friendly-audience papers' holistic score and 71% of the hostile-audience papers' variance in score (see Table 7); these figures are almost as high as those achieved with the addition of Perry Scheme score to these four variables (see Table 8), results suggesting that writers' argumentative writing performances in a combination of these four areas also reflect their levels of intellectual development. Certainly substantial proportions of the argumentative writing activity measured by these variables were also linked to traits measured by the Perry Scheme score.

Several implications emerge from these findings. One is that writing performance--at least in argumentative writing--is closely related to writers' levels of intellectual development, an assertion that may seem self-evident but one that has been questioned in recent years. Our study provides empirical support for this link although our results of course need to be tested in other settings

and with other student populations. What our findings suggest is that qualities that contribute significantly to successful argumentative writing performance are also linked to level of intellectual development as measured by the Perry Scheme score and that in working with students' argumentative writing, we are also working with their critical-thinking abilities.

In terms of such work with student writing, our results also imply that attention to four key variables would strengthen students' argumentative-writing performance--and, perhaps, their critical-thinking performance although this latter suggestion is speculative and requires testing in further studies. But our results imply that focusing on writers' bases for justifying their arguments--confronting them with the necessity for grounding their arguments logically rather than dogmatically, with all the processes implied by "logically"--would improve their argumentative writing performance. Although again it seems self evident that "logic" will produce good argument, the point here is that before students master logical reasoning abilities, they may need help in moving beyond dogmatic ones. Attention to writers' strategies with and responses to oppositional readers would complement and reinforce this process, for it would force writers to explore perspectives and people different from themselves and so loosen their ontological rigidity. Such processes would also of necessity engage them in dialectical thinking, and increases in such thinking should strengthen their argumentative writing.

Yet we do not wish to imply that students' argumentative-writing problems could be magically solved simply by reminding them

that they need to attend to these areas. Our own experience as writing teachers makes us cautious about such sanguine predictions, for we suspect that dualistic and multiplistic writers write the way they do not because no one has ever enjoined them to do otherwise but because they confront genuine cognitive threshholds that make doing otherwise difficult for them. Yet we are also convinced, again on the basis of our own teaching experience, that carefully constructed and sequenced writing instruction could improve college writers' argumentative writing performance substantially even though not absolutely. Clearly, such premises need rigorous testing.

Summary

The audience data in this study established significant predictive relationships between both positive and negative audience activity and argumentative writing performance, with strategy and response activity especially significant for positive correlations and inappropriate moves most telling for negative ones. Thus our study revealed that in argumentative writing, attention to one's readers had a strong impact upon writing performance but that with an adversarial audience, the nature of that impact was differential. That is, on the hostile-audience paper, the audience moves of writers at lesser levels of intellectual development often were negatively linked to paper scores. These results suggested that the hostile-audience writing task was probably too difficult for students at lesser levels of intellectual development. On the other hand, some students at higher levels were evidently challenged by the hostile audience to engage in audience adaptations that corre-

lated significantly with, and contributed positively to, their hostile-audience paper score.

The friendly-audience/hostile-audience writing situation in our study confronted subjects with competing perspectives on the issue of drunk driving and brought out discrepancies between writers' handling both of their arguments and of their readers, for attitudes about those who differ from oneself will affect the degree of understanding and empathy with which one approaches one's readers, and these latter qualities probably reflect social cognitive abilities.

The hostile-audience paper elicited more dialectical activity from writers than did the friendly one, and this activity was strongly associated with score hos and, less strongly but still significantly, with Perry Scheme score. Our results suggest that level of intellectual development is significantly linked to both general argumentative writing performance and to audience adaptation activity, and that the bases upon which writers justify their arguments are linked to their levels of intellectual development and thus also contribute to their audience adaptation activity. In a subsequent study, we will analyze specific differences in audience activity of writers at three different levels of intellectual development.

Authors' Note

We defined a t-unit as an independent clause and any subordinate clause or nonclausal structures that were attached to or embedded in the independent clause (O'Hare, 1973). Any sentence fragments were attached to the independent clause. Incoherent statements were not counted nor were one-word statements such as exclamations, unless they implied a complete thought; statements such as, "Really," which in context meant something like, "I agree" would, therefore, have been counted as a t-unit.

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Table 1

Multiple R's and Beta Weights of Demographic Variables

	Score Fr		Score Hos		Perry Scheme Score	
	R	Beta	R	Beta	R	Beta
Grade		(.35)*		(.39)*		(.42)*
Age		(.20)		(.24)		(.18)
	.48*		.52*		.46*	
Sex		(.08)		(-.04)		(.06)
Major		(-.08)		(.05)		(.05)

N=52

*Significant at or below the .05 alpha level

Table 2

Multiple *R's* and *Beta* Weights of Demographic Variables and Perry Scheme Score Combined

	Score Fr		Score Hos	
	R	*Beta*	*R*	*Beta*
Perry Scheme		(.39)*		(.50)*
Grade		(.18)		(.14)
Age	.59*	(.13)	.68*	(.18)
Sex		(-.10)		(.02)
Major		(.05)		(-.06)

N=52

*Significant at or below the .05 *alpha* level

Table 3

Multiple R's and Beta Weights of Audience Moves

	Score Fr		Score Hos		Perry Scheme	
	R	Beta	R	Beta	R	Beta
Naming [Fr]	.18	(.10)	.29	(.18)	.06	(.04)
Naming [Hos]		(.13)		(.19)		(.04)
Context [Fr]	.20	(.02)	.33	(.16)	.18	(-.13)
Context [Hos]		(.19)		(.36*)		(.19)
Strategy [Fr]	.61*	(.39)*	.48*	(.21)	.45*	(.06)
Strategy [Hos]		(.39)*		(.38)*		(.43)*
Response [Fr]	.50*	(.17)	.71*	(.05)	.42*	(.19)
Response [Hos]		(.41)*		(.70)*		(.32)*
Positive (total) [Fr]	.60*	(.31)*	.70*	(-.08)	.38*	(.07)
Positive (total) [Hos]		(.40)*		(.66)*		(.35)*
Negative (total) [Fr]	.42*	(-.10)	.54*	(-.04)	.38*	(-.11)
Negative (total) [Hos]		(-.40)*		(-.54)*		(-.35)*

N=52

*Significant at or below the .05 alpha level

Table 4

Multiple *R*'s and *Beta* Weights of Audience Moves and Perry Scheme Combined

	Score Fr		Score Hos	
	R	*Beta*	*R*	*Beta*
Perry Scheme		(.52)*		(.61)*
[Fr]		(.08)		(.16)
Naming	.55*		.68*	
[Hos]		(.12)		(.17)
Perry Scheme		(.52)*		(.59)*
[Fr]		(.09)		(-.08)
Context	.55*		.67*	
[Hos]		(.09)		(.25)*
Perry Scheme		(.36)*		(.53)*
[Fr]		(.37)*		(.17)
Strategy	.69*		.67*	
[Hos]		(.24)		(.15)
Perry Scheme		(.38)*		(.42)*
[Fr]		(.10)		(-.03)
Response	.61*		.81*	
[Hos]		(.29)*		(.56)*
Perry Scheme		(.36)*		(.43)*
[Fr]		(.29)*		(.05)
Positive (total)	.69*		.80*	
[Hos]		(.27)*		(.51)*

Perry Scheme		(.42)*		(.50)*
	[Fr]	(-.06)		(-.01)
Negative (total)	.59*		.71*	
	[Hos]	(-.25)		(-.36)*

N=52

*Significant at or below the .05 alpha level

Table 5

Comparison of Multiple R's and Beta Weights of Basis (Hos) Moves

	Score Fr		Score Hos		Perry Scheme	
	R	Beta	R	Beta	R	Beta
Dogmatic		(-.36)*		(-.27)*		(.18)
Pragmatic	.67*	(.24)*	.76*	(.25)*	.68*	(-.07)
Logical		(.34)*		(.47)*		(.53)*
Ethical		(.06)		(.15)		(.19)

N=52

*Significant at or below the .05 alpha level

Table 6

Multiple R's and Beta Weights, Basis (Hos) Moves and Perry Scheme Scores, Combined

	Score Fr		Score Hos	
	R	Beta	R	Beta
Perry Scheme		(.29)**		(.32)*
Dogmatic	.70*	(-.305)*	.79*	(-.21)*
Pragmatic		(.26)*		(.27)*
Logical		(.18)		(.30)*
Ethical		(2.84E)		(.10)

N=52

*Significant at or below the .05 alpha level

**p=.0506

Table 7

Multiple R's and Beta Weights of Key Audience and Basis Moves

	Score Fr		Score Hos	
	R	Beta	R	Beta
Dogmatic		(-.28)*		(-.17)
Logical		(.15)[a]		(.22)*
Strategy (hos)	.71*	(.32)*	.84*	(.26)*
Response (hos)		(.28)*		(.53)*

N=52

[a] entered on step 2, removed on step 5

*Significant at or below the .05 alpha level

Table 8

Multiple R's and Beta Weights of Key Audience and Basis Moves and Perry Scheme Score Combined

	Score Fr		Score Hos	
	R	Beta	R	Beta
Dogmatic		(-.26)*		(-.15)
Logical	.72*	(.08)	.85*	(.12)
Strategy (hos)		(.28)*		(.21)*
Response (hos)		(.26)*		(.51)*
Perry Scheme		(.16)		(.22)**

N=52

*Significant at or below the .05 alpha level

**p = .0507

Figure 1

Synopsis of the Perry Scheme of Intellectual and Ethical Development During the College Years[1]

Position 1--Basic Duality

The student sees the world in polar terms of we-right-good vs. other-wrong-bad. Right Answers for everthing exist in the Absolute, known to Authority, whose role is to mediate (teach) them. Knowledge and goodness are perceived as quantitative accretions of discrete rightness to be collected by hard work and obedience (paradigm: a spelling test).

Position 2--Mulitplicity Pre-legitimate

The student perceives diversity of opinion and uncertainty, and accounts for them as unwarranted confusion in poorly qualified Authorities or as mere exercises set by Authority "so we can learn to find The Answer for ourselves."

Position 3--Multiplicity Subordinate

The student accepts diversity and uncertainty as legitimate but still temporary in areas where Authority "hasn't found The Answer yet." She supposes Authority grades her in these areas on "good expression" but remains puzzled as to standards.

Position 4--Multiplicity Correlate or Relativism Subordinate

(a) The student perceives legitimate uncertainty (and therefore diversity of opinion) to be extensive and raises it to the status of an unstructured epistemological realm of its own in which "anyone has a right to her own opinion," a realm which she sets over against Authority's realm, where right-wrong still prevails, or (b) the student discovers qualitative contextual relativistic reasoning as a special case of "what They want" within Authority's realm.

Position 5--Relativism Correlate, Competing, or Diffuse

The student perceives all knowledge and values (including Authority's) as contextual and relativistic and subordinates dualistic right-wrong functions to the status of a special case, in context.

Position 6--Commitment Foreseen

The student apprehends the necessity of orienting herself in a relativistic world through some form of personal Commitment (as distinct from unquestioned or unconsidered commitment to simple belief in certainty).

Position 7--Initial Commitment

The student makes an initial Commitment in some area.

Position 8--Orientation in Implications of Commitment

The student experiences the implications of Commitment, and explores the subjective and stylistic issues of reponsibility.

Position 9--Developing Commitment

The student experiences the affirmation of identity among multiple responsibilities and realizes Commitment as an ongoing, unfolding activity through which she expresses her life style.

[1] Based on foldout chart in Forms of Intellectual and Ethical Development in the College Years (New York: Holt, Rinehart & Winston, 1968).

Figure 2

PATHMODEL I

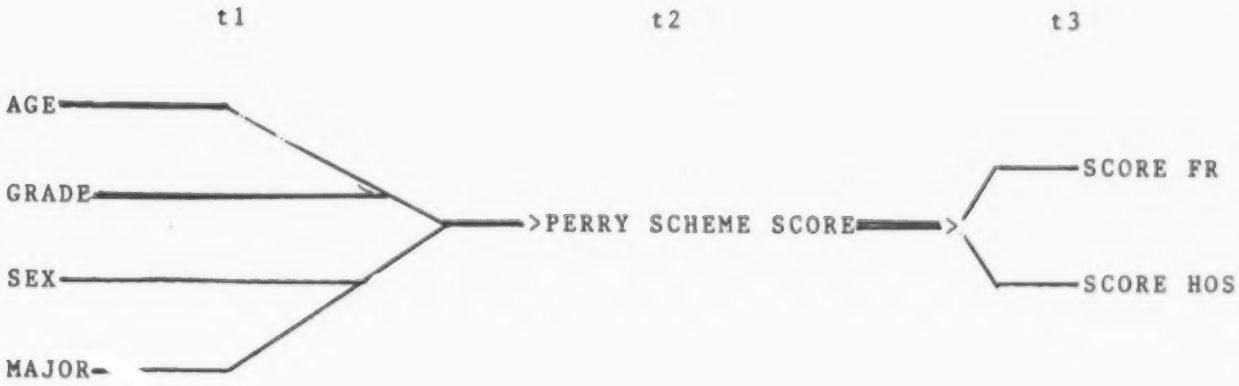
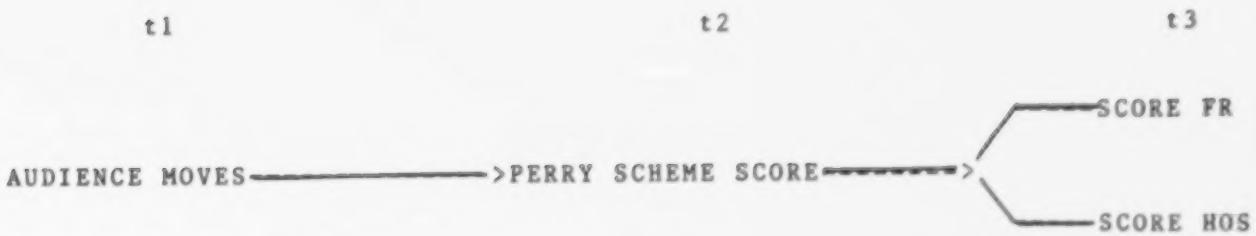


Figure 3

PATHMODEL II



(naming-fr & naming-hos)
(context-fr & context-hos)
(strategy-fr & strategy-hos)
(response-fr & response-hos)
(positive-fr & positive-hos)
(negative-fr & negative-hos)

Figure 4

PATHMODEL III

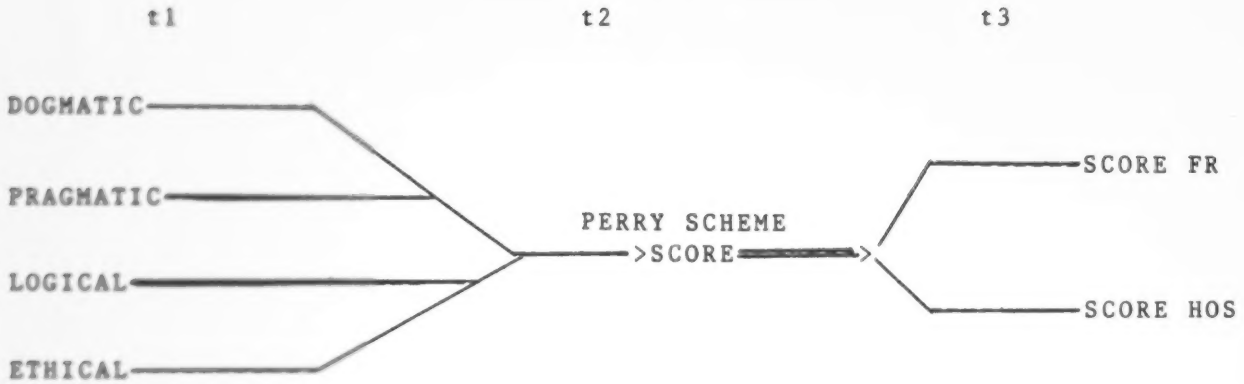
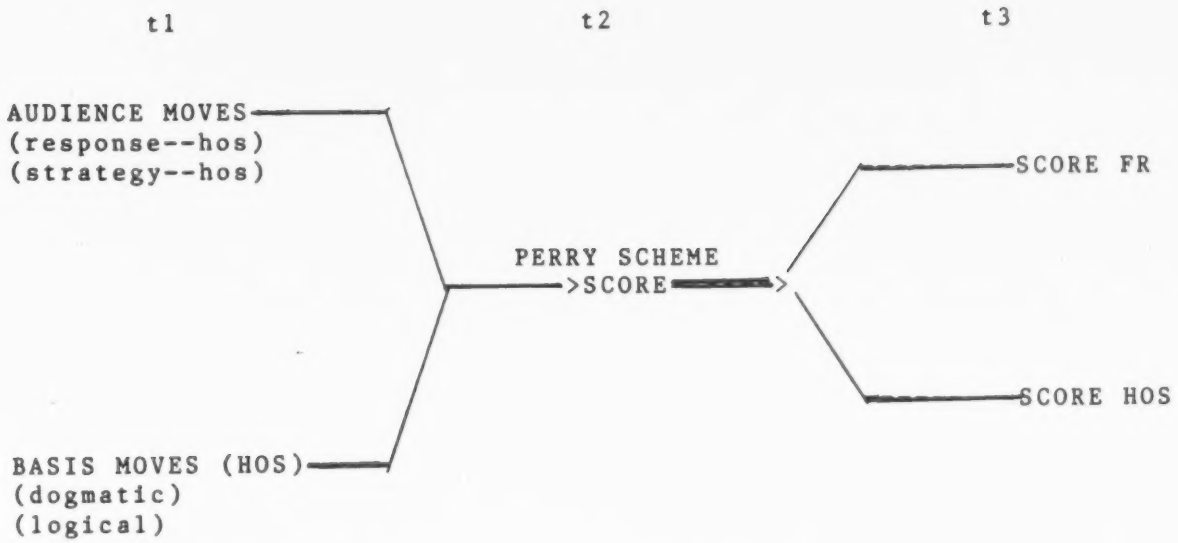


Figure 5

PATHMODEL IV



Appendix A

Topic A

Tougher Drunk Driving Laws?

Background

As you may know, the Colorado Legislature is considering laws which would make the penalties for drunk driving more severe than they now are. This law would require that anyone found guilty of driving under the influence of alcohol be jailed for 24 hours, pay a stiff fine, and have his/her driver's license suspended for 30 days; whether or not the driver was "under the influence of alcohol" would be determined by machine tests of blood-alcohol levels. Second-time offenders would be sentenced to a month in jail, would pay an even stiffer fine, and have their licenses revoked for six months; in addition, they would have to attend an alcohol education program for a year. Any person driving while under the influence of alcohol and involved in an accident resulting in a fatality would automatically be charged with manslaughter.

Essay Assignment

Most of us have had some experience with drunken drivers, whether we know someone who drinks and drives or know someone who has been in an accident involving a drunk driver. Write a well-organized essay of about 1000 words in which you take a stand on the issue of tough drunk-driving laws. Assume that you are writing for readers that pretty much feel the way you do about drunk-driving laws (see below); in order to be effective and persuasive with even a sympathetic audience, of course, your argument should be well-organized, logical, and supported by examples and illustrations.

Readers

If, on the whole, you favor tougher drunk-driving laws, write your essay for the newsletter or magazine of one of the following groups:

Mothers Against Drunk Drivers
Alcoholics Anonymous
Colorado Highway Patrol
Colorado Springs Alcohol and Drug Abuse Workers
Colorado Springs Council of Churches

If, on the whole, you oppose tougher drunk-driving laws, write your essay for the newsletter or magazine of one of the following groups:

Colorado Beverage Industry
Colorado Springs Bar and Tavern Owners Association
Colorado Teamsters Union
John Birch Society, Colorado Springs Chapter
TRIM (Trim Taxes Immediately), Colorado Springs Chapter
Members of Playboy Clubs, Western Area

Underline the readers that you will write your essay for, and write the name of your readers here:

_____

Write your own name here: _____

Hand this sheet in with your essay.

Appendix B

Topic B

Writing About Tougher Drunk Driving Laws for a Hostile Audience

Background

Last session, you wrote an essay in which you took a position on the issue of tough drunk driving laws. In that essay, you wrote to an audience that pretty much agreed with your point of view on the subject.

For this assignment, you are to write on the same topic, but this time for an audience that will disagree with your point of view and will probably feel some hostility towards it. Your job as writer is to persuade these unsympathetic readers to at least consider your point of view and maybe, even, change some of their own thinking on the issue of drunk driving laws.

If on the whole you favor tougher drunk driving laws, write your essay for the newsletter or magazine of one of the following groups; these groups will probably be opposed to tougher drunk driving laws:

Colorado Beverage Industry
Colorado Brewers Association
Colorado Springs Bar and Tavern Owners Association
Colorado Teamsters Union
Members of Playboy Clubs, Western Area

If on the whole you are opposed to tougher drunk driving laws, write your essay for the newsletter or magazine of one of the following groups; these groups will probably be in favor of tougher drunk driving laws:

Alcoholics Anonymous
Colorado Highway Patrol
Colorado Springs Council of Churches
Mothers Against Drunk Drivers

Underline the readers that you will write your essay for, and write the name of your readers here:

_____

Write your own name here: _____

Hand this sheet in with your essay.

Essay Assignment

Write a well-organized essay of around 1000 words in which you present your position on tough drunk driving laws to readers who will disagree with you. Be sure to support your position with examples and illustrations. Note: the 1000 word length is a suggestion only; if you can make an effective argument in a shorter paper, that's fine, or if you need more than 1000 words to construct your argument, that's fine too. Use your common sense about length.

Reminder

The proposed new drunk driving law would include a mandatory jail sentence of 24 hours for anyone found guilty on a first offense of driving under the influence of alcohol together with a stiff fine and suspension of the person's driving license for 30 days; second-time offenders would be sentenced to 30 days in jail, pay an even stiffer fine, and lose their driver's licenses for six months. They would also have to attend an alcohol education program for one year. Any person driving while under the influence of alcohol and involved in an accident resulting in a fatality would automatically be charged with manslaughter.

Appendix C

Audience Coding Rubric

DEFINITIONS AND EXAMPLES

POSITIVE MOVES - TEXT

N - NAMING; recognizes that an audience exists by direct and indirect reference.

N1 - Direct reference "you"--speaks or writes directly to the audience.

--"You would not want the drunk driver in your bar."

N2 - Indirect reference "They, their."

N3 - Names audience--appears in text when writer names the group to whom the paper is written.--MADD, Bar and Tavern Owner Association, etc.

S - STRATEGY; implements a strategy or tactic for reader.

S1 - Appeals to self interest vis-a-vis laws--how laws will help reader; how reader might benefit financially, socially; how business will benefit, reputation improve.

--"These laws will make your job easier."
--"You will not have to put up with drunks in your bar."
--"Drunk drivers are not good for your business."

S2 - States readers' responsibility, obligation; what readers ought to do. Key words: "ought," "should," "your duty," "your responsibility."

--"Bar and tavern owners ought to be sensitive to these problems."
--"You should be a responsible citizen."

S3 - States readers' circumstances, beliefs, experiences, characteristics--their state of being. Key phrases: "you have seen...," "you might think...," "you put your family first...," "you are...."

__"As bartenders, you see drunks all the time..."
__"You come in contact with this..."
__"Parents care about the well-being of their children..."

S4 - Direct emotional appeal

--"What if you lost a child, spouse, or friend because of drunk driving?"
--"This tragic incident may occur to your child."
-- "You might be affected personally."

S5 - Tells readers they have choices.

--"You have a choice...."
--"These issues present us with choices...."

S6 - Praises, supports, shows appreciation, flatters--calls readers "responsible people,"

--"[Yours is] a prominent association...."
--"We as upright citizens...."

S7 - Use of shared features, aligns with audience--"we."

--"Just recently in our city..."
--"We all want a better place to live..."

S8 - Asks reader to take some kind of action or to support laws or to take action to solve the problem.

__"I urge you to support these laws...."
__"You can ask your customers to drink less...."
__"You can write your congressman...."

C - CONTEXT: establishes context and gives background information for the reader.

C1 - Simply states own position but not as a summarizing statement or repetition of an earlier statement. This is the initial statement of the position--limited to first part of paper.

--"I'm here to argue against the proposed changes in these laws."
--"The state should pass and enforce tougher drunk driving laws."

C2 - Introduces self, establishes persona.

--"I'm speaking to you as a concerned citizen."
--"I know how law enforcement officers feel because my father was a policeman."

C3 - Gives reasons for own position (not general reasons; some variety of "I" statement).

--"I feel very strongly about drunk driving because my best friend was killed by a drunk driver."
--"One of my best friends was permanently disabled in an accident involving a drunk driver."

C4 - States issue or problem--what it is, why it's a problem; comes in the opening section only.

--"The number of accidents caused by drunk drivers has risen sharply."
--"The provisions of the present law are not enforced. Drunk drivers are let off with a slap on the wrist."

C5 - Gives specific information or clearly explains the proposed laws (does not give an opinion but clarifies what the terms of the laws are).

--"Under the proposed law, anyone found guilty of drunk driving must enroll in an alcohol education program."
--"One such bill provides for a mandatory twenty-four hour jail sentence, license suspension for thirty days, and a stiff fine."

R - RESPONSE; responds, accommodates to reader's concerns, values, beliefs.

R1 - Articulates readers' possible worries or fears or possible objections--that laws might affect business or financial position, that reader might see laws as extreme or unfair.

--"Bar owners may feel that the laws will hurt business."
--"You will probably believe that these laws are too costly."

R2 - Gives reasons for these fears, worries, etc.--often signalled by "because" clause.

--"Some [tavern owners] fear these laws because they are afraid they will hurt business."
--"Many [drivers] object to the new laws because they are afraid they will be caught driving drunk."

R3 - Answers objections, fears; rebuttal. Explains why the reader need not be concerned.

--"The laws won't keep anyone from drinking but only from driving drunk."

NEGATIVE MOVES - TEXT

W - WRITER-BASED MOVES

W1 - Private or code references
W2 - Vague pronouns
W3 - All purpose words

I - NEGATIVE APPEALS

I1 - Negative or pejorative references to readers. The writer blames the readers or attempts to make them feel guilty; negative representations of readers.

--"You [bartenders] don't care what happens to people--you just want to make money."
--"Maybe you just don't care about how you drive..."

I2 - Inappropriate argument for audience. The argument would be ineffective with the specified audience.

--"Alcohol is a depressant. It does not give you your judgement." [to Council of Churches]
--"Those laws are a step in the same direction parents have tried to go all along where raising their kids is concerned." [to Bar and Tavern Owners Association]
--"Drinking is popular among teenagers." [to Playboy Club]